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NAVAL WAR COLLEGE

Newport, R.I.

# STRATEGIC SURPRISE AND INTELLIGENCE--TOWARDS A CLEARER UNDERSTANDING

by

Major Jeffrey C. O'Leary, USAF



A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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# Abstract of STRATEGIC SURPRISE AND INTELLIGENCE--TOWARDS A CLEARER UNDERSTANDING

Current Army and Air Force doctrine concedes strategic surprise in the face of overhead surveillance. Has strategic surprise been eclipsed by the "eye in the sky"? This paper examines the nature, foundation and potential of strategic surprise. Further, it offers a military definition for the term "surprise," more relevant than the lexical one offered in Webster's Dictionary. Overall, there appears to be a fundamental misunderstanding of the nature of strategic surprise in AFM 1-1 and FM-100. The weight of history seems to say that strategic surprise is not only possible, it is almost inevitable. Further, complacency about our ability to deny strategic surprise to our enemies is neither warranted by historical example or current technology. Contemporary historical examples are used to evaluate current thinking on strategic surprise. Conclusions resulting from this study are threefold: 1) Strategic surprise occurs in the face of sufficient and accurate intelligence data, not in the absence of it: 2) Surprise exploits the nature of man--his personality, idiosyncrasies, peculiarities, and weaknesses: 3) Intelligence networks themselves, curve as clogged conduits through which valuable information fails to flow at inopportune times. The nature of strategic surprise argues against any technology ever overcoming the complexity and unpredictability of man himself. A new evaluation of strategic surprise should be incorporated in operations doctrine and meaningful curriculum should be formulated for use in Professional Military Education programs.

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#### SURPRISE AND INTELLIGENCE--TOWARDS A CLEARER UNDERSTANDING

#### CHAPTER I

#### INTRODUCTION

The first definition of surprise in Webster's Dictionary says, "To attack unexpectedly; an attack made without warning." It is interesting that the dictionary places the word "surprise" within a military context. Yet, the definition, being strictly lexical, falls short of describing the essential elements of military surprise. In keeping with Webster's, Army and Air Force doctrine is constructed using this terminology as a framework. The development of technology that diminishes or eliminates surprise may require a re-evaluation of defense strategies currently thought sufficient.

AFM 1-1, the Basic Aerospace Doctrine of the USAF, describes surprise this way:

Strike the enemy at a time or place or in a manner for which he is unprepared. To a large degree, the principle of surprise is the reciprocal of the principle of security. Concealing one's capabilities and intentions creates the opportunity to strike the enemy when he is unprepared, but strategic surprise is difficult to achieve. Rapid advances in strategic surveillance technology make it increasingly difficult to mask large scale marshaling or movement of personnel and equipment. (Italics mine)<sup>2</sup>

Clearly, Air Force doctrine acknowledges that quantum advances in overhead surveillance technology seriously jeopardize the military's ability to achieve strategic surprise. While the statement, "surprise is difficult to achieve," does not speak to the past, it certainly describes current and expected conditions of war fighting. Army doctrine seems to concur. The identical language in AFM 1-1 is duplicated in FM 100-5, the Army Operations Field Manual. It concludes with:

The problem {of achieving strategic surprise} is compounded in an open society such as the United States, where freedom of press and information are highly valued. However, the United States can achieve a degree of psychological

surprise due to its strategic deployment capability.<sup>3</sup>

The army also concedes strategic surprise in the face of satellite technology, yet holds out for a "degree of psychological surprise" using rapid deployment capabilities.

Each of these services has relegated strategic surprise to the annals of history or, at best, to the realm of "difficult to achieve." The nature of strategic surprise, however, suggests a future different from that which is currently supposed.

The underlying assumption of current thought places considerable "faith" in the efficacy, reliability, timeliness and accuracy of intelligence. Faith in intelligence, including overhead imagery, is a two edged sword--we believe it prevents others from achieving surprise against us, and believe it keeps us from surprising others. If this faith is unfounded then we face the sword ourselves. Consequently, this belief system requires a close examination.

The thesis of this paper is--Strategic surprise is difficult to prevent, even in the face of accurate and timely intelligence (including overhead imagery), because it is based on exploiting a leader's or nation's personality and characteristics as well as the bureaucracies that serve them. Historical evidence seems to indicate that strategic surprise in the 20th century has rarely been prevented despite a plethora of available intelligence. If the presence of reliable and timely intelligence does not prevent surprise, then a re-evaluation of our current thinking is in order. Strategic surprise, in this case, may not only be possible, it may be inevitable. This is a sword that also cuts both ways. While we may not be able to prevent strategic surprise, we can expect to use this principle of war to our military advantage.

This paper will examine the elements of strategic surprise--its foundation, nature and potential. This will involve a proposed notional definition for strategic surprise that offers a more relevant application to the military art. Additionally, I will identify and examine the validity of assumptions that form the basis for military doctrine on strategic surprise. Second. I will use historical case studies to test the assumptions of current doctrine that link the availability of intelligence to strategic surprise. Finally, I will draw conclusions and make

recommendations for those at the operational level and those involved in re-structuring a shrinking military force.

It is significant that Joint Pub 1 acknowledges, "The principles of war {of which surprise in one} represent the best efforts of military thinkers to identify those aspects of warfare that are universally true and relevant."(Italic's mine)<sup>4</sup> It is possible this concert of thought generally refers to the operational and tactical levels. Yet, U.S. history is not without example of surprise at the strategic level--both inflicting it and receiving it. Consequently, it is more logical to conclude joint doctrine acknowledges the potential for surprise at any level. If this is so, then before discarding what was previously believed as "true and relevant," a thorough investigation of strategic surprise is in order.

#### CHAPTER II

# STRATEGIC SURPRISE--NATURE, DEFINITION AND POTENTIAL

#### Foundation and Nature

There are two schools of thought regarding the potential for strategic surprise that provide a framework for contemporary military theorists. In one corner stand Clausewitz and Jomini and in the other Sun Tzu. Certainly, the age in which each lived influenced their assessment of 'urprise.

Clausewitz takes a dim view of the potential for strategic surprise.

While the wish to achieve surprise is common and, indeed, indispensable, and while it is true that it will never be completely ineffective, it is equally true that by its very nature surprise can rarely be outstandingly successful. . .It is very rare therefore that one side surprises another, either by an attack or by preparations for war. <sup>1</sup>

Jomini, too, disparages the potential for achieving surprise in even more drastic terms than Clausewitz.

The surprise of an army is now next to an impossibility...Prearranged surprises are rare and difficult because in order to plan one it becomes necessary to have an accurate knowledge of the enemy's camp.<sup>2</sup>

Interestingly, Jomini unwittingly presages the potential for surprise should the means (technology?) exist to get "accurate knowledge of the enemy's camp."

In the opposing corner, Sun Tzu expresses considerable faith in the potential for surprise to assist the commander. In Whaley's Compilation of Principles of War, surprise ranked third in priority for Sun Tzu, sixth for Clausewitz and not at all for Jomini.<sup>3</sup> Sun Tzu advocates surprise through conversations between his commanders.

Chang Yu:...Come like the wind, go like lightening...

The enemy must not know where I intend to give battle. For if he does not know where I intend to give battle he must prepare in a great many places...

Chang Yu: Take him unaware by surprise attacks where he is unprepared. Hit him suddenly with shock troops.<sup>4</sup>

In fairness, Sun Tzu and Clausewitz were speaking about surprise from different vantage points. "When Clausewitz speaks of the near-impossibility of achieving surprise, he is primarily referring to the higher operational or strategic levels, whereas Sun Tzu's high estimation of the utility of surprise is mainly in the context of the tactical level of war." 5

Jomini also discards surprise at the strategic and operational levels. In summary, at the operational and strategic levels of war, the three theorists agree more than differ.

While these theorists reject the potential for strategic surprise, due to a lack of available intelligence, Jomini believed attaining timely or accurate intelligence of the enemy's camp was unlikely. The availability of reliable intelligence sources and data might have altered his disdain for strategic surprise. Had comprehensive intelligence been available (imagery, etc.), it is likely these theorists would have retained their low opinion of surprise, but for exactly the opposite reason. That is, because I know all about the enemy's camp, and he knows all about me, strategic surprise isn't possible. This brings the reasoning full circle to the place where we find current military thought.

The weight of academia appears to place current military thought and doctrine on solid ground. Yet, theorists and their theories must be borne out by practical and historical example. A closer examination of historical examples is provided in the following chapter to determine whether technological intelligence, and intelligence in general, provides the means to prevent or achieve strategic surprise.

Exploring the nature and definition of strategic surprise, and reasons for its success or failure, are essential to correctly interpreting historical examples where this phenomenon occurs. Yet, the nature of strategic surprise is more inscrutable than is readily apparent. "The study of strategic surprise can be rather disappointing for those who have always assumed that a better *theoretical* understanding of the subject at hand would logically lead to the discovery of more effective *practical* means to anticipate strategic surprise and alleviate its impact." 6 If

so, then a cursory look at the subject is pointless, and conclusions derived from such studies should be eyed cautiously.

Thus, the nature of strategic surprise is not as simple as it appears at first blush. Surprise is not an absolute reality but a relative concept and is rarely an all or nothing proposition. Further, it is not usually one-dimensional, and may involve many facets and phases. If only one facet or phase succeeds out of several that were attempted, the condition of surprise is still created. (A man who purchases 10 lottery tickets and wins on one, does not consider the purchase a wasted effort).

Finally, though only peripheral to this paper's interest, strategic surprise springs from well developed intelligence operations. In most cares, examples of achieving surprise also include aspects of deception operations. These further confuse the intended victim with illusions in the midst of reality. Distinguishing between the two, by political and military leaders unschooled in the art of deception, is difficult—even for those familiar with deception operations. Skill in these areas can provide leaders, at the operational and strategic levels, with the tools needed to ably develop plans to launch surprise from their respective positions.

Coming to a clearer understanding of strategic surprise, its nature and foundation, is the first step towards producing a definition that is consistent with history, relevant to the present and useful to the future. This, in turn, should provide a solid foundation upon which coherent doctrine can be constructed.

#### Definition--Re-defined

As indicated in the introduction, the current dictionary definition of surprise has a more lexical than practical value. Certainly, as Webster's concludes, "surprise is to attack unexpectedly; an attack without warning." Yet, war is not won without losses or fought without opponents and surprise is not an absolute but relative concept. If 't took 2 weeks to prepare defenses against a Soviet invasion of Central Europe and only 2 days warning was

received, strategic surprise would be achieved. Defenses would be inadequate to the task by the time the first tanks were rolling across the Fuida Gap.

While lines are blurred between strategic and operational aspects of surprise, certain characteristics are apparent. Strategic surprise is generally understood to occur during initial and, generally, major operations against the enemy. Normally, these operations are launched on directions from the highest levels of government and involve assets and devices not normally assigned to the operational commander. These are usually directed at a single theater of operations. (Due to the enormous size of such operations, most nations are constrained by cost and personnel from undertaking more than one at a time). Operation Overlord is a good example of this. It was launched from within the European theater, initiated above the operational commander and involved national intelligence assets and plans (Ultra, Double-Cross, Operation Fortitude-South).

If surprise is rarely complete, it is achieved in spite of *some* enemy expectation or anticipation. Even in WW II France, Hitler had a good idea that the Allies would attack momentarily and along the coast of France. There were numerous warning signs in the preceding weeks that led to his conclusion about the allies intentions. Within Webster's definition, however, there is room to argue that this operation was not a surprise. The point here is not to demean Webster but to point out the definition's limitations and relevancy, especially in light of current technology, for developing military doctrine.

A better definition of surprise would be along the lines of "an attack that achieves a military advantage in the face of inadequate defenses or an unprepared enemy." Within this definition, allowances can be made for the normal, pre-attack, warning signals an enemy receives. Furthermore, enemy preparations do not negate the advantage of surprise, if these preparations are less than adequate. While the German army in WW II had *some* defenses in Sicily and Normandy, they were less than adequate to the task when the allies launched each operation. The advantage of strategic surprise was achieved, not because it was "unexpected"

or "without warning" but because the enemy was led to make preparations that were inadequate to the task. In the case of Sicily, the Germans diverted their defenses to Greece and in Normandy, to Pas de Calais.

Strategic surprise is often achieved in the face of an enemy unable to determine *exactly* where or when their opponent will attack. It is this brief gap of knowledge, a moment of time, or ignorance of intended method, that opens the door for strategic surprise. In war, this "gap" can involve time, location, method or weight of an impending attack. Knowing a part of the plan is not enough to prevent strategic surprise, which is why it has been so often successful.

This re-definition, for military purposes, recognizes strategic surprise occurs, not in the absence of enemy awareness, but in spite it. It acknowledges surprise as being more or less successful, depending on the state of enemy preparedness and defenses. It distinguishes surprise from the strictly lexical, and apparently doctrinal belief, of existing only when it is completely unexpected. This also is a far better understanding of how strategic surprise works, especially in an era where technology has compressed time. The "gap" of warning time in the early 20th century involved weeks, during WW II--days, and now may be no more than hours. (In the case of ICBM's, only minutes of warning). In this case, an enemy may have the intelligence capability to anticipate an attack, yet be unable to prepare adequate defenses. Further, unbalanced technology development between offensive weapons and defensive systems may yield a condition where no adequate defense exists. In this case, it is sheer presumption to believe that surprise is in the realm of "difficult to achieve." In these cases, the repercussions of miscalculating the nature of strategic surprise are enormous. If weapons proliferation is increasing in a world fractured by multi-polar schisms, then coherent policy and doctrine is essential--especially in light of the unstable nature of nations seeking and acquiring NBC weapons.

This is a fundamental change of thinking from the current "all or nothing" approach.

This approach may be both unworkable and historically untenable. Strategic surprise may be

returned to the realm of the commander if planning involves methods and means to exploit these "gaps" of enemy awareness and corresponding weakness. The enemy may not be blind, but may have enough *blind spots* to enable friendly forces to achieve strategic surprise.

Turning points in history and battles often occurred when resourceful individuals or nations found the means to do what accepted thought believed "impossible" or "difficult to achieve." The benefits of strategic surprise are too great for future adversaries to quickly abandon their search for the means to achieve it. Inversely, the potential consequences of misunderstanding or miscalculating its potential for harm and benefit should provide sufficient impetus for further military study.

#### **Potential**

The potential of strategic surprise is commonly viewed as a force multiplier. It creates the environment in which fewer lives and materials are spent in pursuit of national policy goals. "A successful unanticipated attack will facilitate the destruction of a sizable portion of the enemy's forces at a lower cost to the attacker by throwing the inherently stronger defense psychologically off balance, and hence temporarily reducing his resistance." Traditionally, weaker nations have more diligently sought to maximize their strength using force multipliers. Any activity that is viewed as a force multiplier (intelligence ops, deception, surprise, etc.) have been historically disdained by superpower nations. "Clearly, then, the incentive to resort to strategic surprise (as well as to deception) is particularly strong for countries that are only too cognizant of their relative vulnerability." Recent contractions in superpower military forces will evoke more interest in tools that stretch diminishing resources while simultaneously increasing combat capabilities.

Along with saving lives and material, strategic surprise has the capability of creating something more intangible and insidious--a paralysis of reaction. During preparations for launching an invasion in the Mediterranean, the British in WW II conducted a complex deception operation known as Operation Mincemeat. The goal was to create a notional

invasion of Greece while preparing to land in Sicily. The operation was so successful, and surprise so complete, that a paralysis of reaction occurred among the German High Command. Ewen Montague, who conducted this deception operation concluded:

It is clear that Hitler was completely sold on the idea that we were intending to land in Greece and, now that he had come to this conclusion, he stuck firmly to it. So much so that, on 23rd July, nearly a fortnight after the Allied landing in Sicily, Hitler still believed that the main operation was going to be an invasion of Greece, and appointed his favorite general, General Rommel, to command the forces that were being assembled there. 9

In the allied invasion of Europe, surprise was essential to reducing casualties and creating the best possibility for success. An intricate deception plan, Operation Fortitude, produced this desired effect. This plan created a notional landing site and time, in the area of Pas de Calais. Again, surprise was achieved to such a degree that when the invasion began, German commanders were away from their troops, some even vacationing. 10 Again, a paralysis of reaction occurred:

Moreover, because the German commanders (until the end of the second week) and Hitler (for seven weeks) feared that the Normandy landings might be a feint to draw away forces from the intended main invasion in the Pas de Calais, the front was not reinforced to the extent that was desirable. Nor would Hitler allow any evacuation of the South of France either. . . 11

The effect of this delay for the German High Command was catastrophic. With the allied advantage of men and material, as well as complete air superiority, the Germans were unable to stem the allied momentum. Notional, or phantom, diversions at Pas de Calais and Greece, amplified the effect of surprise and extended the paralysis, in these cases, for a period of several weeks.

The potential for harm or benefit nears the infinite in the category of nuclear weapons. Predicting and anticipating strategic surprise is far more difficult when minutes rather than months are available to react appropriately. The proliferation of nuclear weapons to third world countries is not just a matter of concern, but a matter of fact. If an attack were to be launched from such a nation on the US, what kind of assistance would launch warning

indicators provide? Indeed, while the attack may be limited to one or two weapons, the decision to respond or not, and at what level, would be far more complex than during the period of superpower confrontation. The one unalterable fact remaining from the cold war era is that missile flight times are still very short and adequate defenses do not yet exist.

Certain weaker nations may find the temptation to use such weapons irresistible, righting with one blow the perceived or real injustices suffered from disparate nations. The United States may face smaller, nuclear capable nations, who have no reservations about using these devices as "great equalizers." In any case, warning signals would be minimal.

It is no longer necessary for the aggressor to undertake huge movements of troops and ships in the weeks preceding an all-out war. . {Nuclear weapons from all platforms} have the capability of delivering a blow many times more devastating than anything imaginable without yielding any substantial intelligence warning. 12

Surprise is a powerful force multiplier that each side desires to achieve. The ability to reduce casualties, material losses, ensure success and create a paralysis of reaction are the benefits of creating such a condition.

Current military doctrine indicates an assumption that overhead technology negates achieving strategic surprise and, inversely, any country possessing such capability cannot be strategically surprised. The doctrine also assumes a timely and unfettered flow of such information to appropriate decision makers. It is a kind of decision by algebra. That is, if timely and accurate intelligence is available logical decisions will follow, military preparations will be adequate, and surprise will be prevented. If this is so, then contemporary historical examples will bear this out.

Despite current doctrine, the weight of history argues against this line of thinking. Strategic surprise has far more to do with the psychology and nature of man and his affairs than the availability of intelligence. Either way, history should demonstrate whether the availability of accurate and timely intelligence is sufficient to prevent strategic surprise.

#### CHAPTER III

#### INTELLIGENCE AND SURPRISE--HISTORICAL OVERVIEW

Current doctrine presupposes technology has done what previous technology and intelligence operations could not do to prevent strategic surprise. Yet, as will be shown in the following examples, the seeds of surprise originate in the heart and are sown by exploiting the nature of leaders and nations and the bureacracies that serve them. Thus far, technology has yet to penetrate this enigma called man and discern his intentions.

Beginning in the 1970s, the US pursued a course away from HUMINT and increased its reliance on technology. (This began during the 1970's when the idea of "spying" fell into disfavor under the Carter administration). The technological approach to intelligence gathering has fiscal advantages and is relatively responsive to short notice demands. Yet, even photographs cannot tell a leader the significance and meaning of what he is viewing. Technology may prove unreliable in the future, as it has in the past, when asked to do the yeoman work of predicting and preventing strategic surprise.

A brief look at some recent case studies will help determine the key elements that create the conditions that result in strategic surprise. Obviously, they vary from case to case, yet, three significant points emerge relevant to this discussion. First, strategic surprise occurred in the face of sufficient and accurate intelligence data not in the absence of it (including photographic reconnaissance). Second, surprise exploited the nature of a leader or nation. The personalities, idiosyncrasies, peculiarities, and weakness of man all served as building blocks to create strategic surprise by a resourceful and committed enemy. Third, intelligence networks themselves, served as clogged conduits through which valuable information failed to flow.

These suppositions should be evident from the following three case studies. Space alone prevents a comprehensive study of the nearly two dozen examples of strategic surprise

that have occurred since the outbreak of WW II. A counter-factual case is also included for comparison in the form of the Cuban missile crisis.

#### PEARL HARBOR--DECEMBER 1941

If our intelligence system and all our other channels of information failed to produce an accurate image of Japanese intentions and capabilities, it was not for want of the relevant materials. Never before have we had so complete an intelligence picture of the enemy. 1

The committees and commissions that studied the attack on Pearl Harbor shortly after the war, came to a similar conclusion. No lack of information was available about Japanese intentions, capabilities, communications, codes, and changes in operating procedures before the attack at Pearl. Significant amounts of intelligence preceded the "surprise attack" to provide sufficient warning and should have been relayed by, to and through elements of military forces stationed in Hawaii.

First, the US had broken the top-priority Japanese diplomatic code, which gave us access to communications between Tokyo and major embassies around the world.<sup>2</sup>
Additionally, "cryptanalysys also had some success in reading codes by Japanese agents {MAGIC} in major American and foreign ports. . .Our naval leaders also had at their disposal the results of radio traffic analysis." Unfortunately, no single person or central collection agency ever had control of all these intercepts. They were divided between numerous agencies (as is the case today). "Some {intelligence data} traveled through rapid channels of communication, some were blocked by technical or procedural delays; some never reached a center of decision."<sup>4</sup>

The beauracratic failings and infighting among intelligence agencies is not particularly surprising. Each competes for limited funding and prestige. It is the nature of all beauracracies to withold embarassing sensitive information, promote their own self-interests and proceed cautiously in the face of uncertainty. (Witness the recent admissions from the CIA and FBI over their complicity in failing to coordinate intelligence gathered in the Bank of

Commerce and Credit {BCCI} prosecution. The results in this case left the Justice Department holding an empty gun and unable to effectively prosecute their case).

On the diplomatic front, MAGIC analysis indicated that Tokyo was directing their ambassadors to vigorously pursue a diplomatic resolution to the growing conflict with Washington. Washington had knowledge of Tokyo's deadline "for the favorable conclusion of the negotiations, first for November 25, later postponed until November 29. In case of failure. . .Japan was determined to pursue her policy and 'things' would automatically begin to happen." Finally, information was passed to Ambassador Grew, (and on to Washington) in January 1941, of a secret plan the Japanese held to attack Pearl Harbor. This information was discounted as unreliable.

The signals available to military and civilian authorities numbered in the dozens. Yet, "for every signal that arrived in 1941, there were usually several plausible alternative explanations, and it is not surprising that our observers and analysts were inclined to select the explanations that fitted the popular hypothesis." This is a common phenomenon in intelligence analysis. Presupposed ideas are the glasses through which new intelligence data is seen and evaluated.

While signals were available, compartmentalization of secret information (such as MAGIC) meant few individuals had access to critical intelligence. Additionally, rivalries existed between military intelligence agencies that further obstructed complete analysis and dissemination of available intelligence. Somewhat surprisingly, this kind of adversarial relationship existed among organizations within a single branch of service. "The most glaring example of rivalry in the Pearl Harbor case was that between Naval War Plans and Naval Intelligence."

Further exacerbating the problem was a low opinion of intelligence analysts in the Pacific theater and correspondingly low budgets to finance these activities. Yet, during the

same period England, Germany and Japan raised intelligence budgets to a level that Congress regarded as utterly ludicrous.

In view of these problems, it is not surprising that the attack at Pearl resulted in an unpleasant strategic surprise for the United States. Even more distressing is the incident that occurred in the Philippines the following day.

The information that Pearl Harbor had been attacked arrived at Manila early in the morning of December 8 giving the Philippine forces some 9-10 hours to prepare for an attack. General MacArthur had received a war warning similar to the one received by General Short in Hawaii before the Japanese attacked there. There was no sense of urgency in preparing for a Japanese air attack. . When the Japanese bombers arrived shortly after noon, they found all the American aircraft wingtip to wingtip on the ground.

Clearly, signals from multiple sources indicated unfriendly and, in some cases, hostile Japanese intentions towards America. Yet, at Pearl, and later the Philippines, the Japanese achieved strategic surprise--not in the absence of intelligence but in the face of it.

Could photographic evidence have prevented such an attack? The possibility can not be completely ruled out, yet the intelligence evidence available was routinely interpreted as non-hostile. Even photographic evidence is interpreted in the light of currently held assumptions. That is the both the rub and paradox. The best intelligence data can tell the entire story of an enemy and still be ruled "inconsequential," "unconvincing" or "so-what?" by analysts or politicians. "There is a good deal of evidence, some of it quantitative, that in conditions of great uncertainty people tend to predict that events they want to happen will actually happen." Those wishful thoughts may or may not correspond to the events at hand.

The surprise at Pearl Harbor happened for many reasons but the lack of intelligence was not one of them. Bureaucratic infighting and rivalries, wishful thinking about Japanese intentions, failure to heed overt warnings, lack of diligent preparations and general disbelief in the likelihood of attack led to this disaster. These are the real problems that preceded the strategic surprise at Pearl Harbor.

### STALIN AND OPERATION BARBAROSSA--JUNE 1941

While there were numerous culprits in the surprise at Pearl Harbor, Stalin himself bears most of the blame for the surprise of Operation Barbarossa. In the preceding years, Stalin led a series of bloody purges that eliminated his most capable military and civilian leaders. So few senior leaders remained that in June 1940, Stalin promoted 479 officers to Major General, the largest mass promotion of any army in history. With such inexperienced leadership, one might initially conclude Stalin was failed by those around him. Yet, the facts of the case don't bear this out.

As with the surprise of Pearl Harbor, there was a plethora of intelligence available in great quantities prior to the initiation of hostilities. Unlike Pearl, the intelligence was less cryptic and emanated from an even greater variety of sources. The key elements in this strategic surprise centered around Stalin-his wishful thinking, denial, and desire to save political face.

Beginning on the diplomatic front in pre-war 1941, Stalin was well informed by both British and American governments that Germany had decided to attack Russia. These estimates came from ULTRA traffic decodes and humint sources in the LUCY network operating from Switzerland. Stalin viewed these warnings as nothing more than provocations, believing the west was trying to goad him into entering the war. He viewed the west far more suspiciously than Germany. It is obvious from his statements, speeches and a addresses (Stalin) considered Britain the chief enemy of Russia.."

On the spy front, Stalin received excellent information from agents operating in Germany and Tokyo. "Richard Sorge was even able to report, from Tokyo on 15 May, the exact date of the impending German invasion and the details of Hitler's plans." 13

A lack of intelligence in this case could not be used as a plausible excuse for the surprise of June 22. "Throughout pre-war 1941 intelligence flooded the Kremlin from various sources, among which were Winston Churchill, the American State Department, Soviet

Military attaches, Soviet frontier troops, Soviet Military District headquarters and German army deserters." <sup>14</sup> Amazingly enough, Stalin continued to deny any reports of German hostilities even after being attacked. Reports began to flood the Kremlin reporting the invasion, yet Stalin considered these as only provocations by renegade German generals. <sup>15</sup> The list goes on and on.

Stalin had invested a great deal of faith and political prestige in the Molotov-Ribbentrop Pact of 1939. Determined to placate Hitler, Stalin continued to grant Germany concessions (beyond treaty requirements), and strictly adhered to the economic terms of the Pact. His investment of political prestige, in averting a war with Germany, led him to continue to deny incontrovertible intelligence that told a different story. Political leaders, where the power to avert strategic surprise finally rests, see through glasses fogged by issues not normally faced by the military.

Stalin also exhibited a strong tendency towards wishful thinking and denial in the days preceding the hostitities. This is not uncommon in both governments and individuals involved in crisis moments. As mentioned before, during periods of crisis many people react upon 'a priori beliefs of how that unexpected crisis would develop. This may have little to do with the reality of the event itself.

Would satellite surveillance have made any difference in the case of Operation Barbarossa? Various sources indicate that Stalin had upwards of 200 different confirmations of an impending attack from Germany. Photographic intelligence would not have prevented strategic surprise when, four hours after hostilities began, Stalin was still rejecting reports that Germany had invaded.

This case demonstrated the relationship between political leadership and achieving strategic surprise as well as the role of wishful thinking and reality denial in the face of unpleasant or unexpected intelligence. The weaknesses and strengths of a leader and nation are always available for resourceful ener less to exploit for this purpose

#### **INVASION OF KUWAIT--AUGUST 1990**

The Iraqi invasion of Kuwait on August 2, 1990 demonstrated the difficulty in preventing strategic surprise, even in the age of satellite technology. Further, American diplomatic involvement was significant in the period of months preceding the outbreak of hostilities. Two important aspects of strategic surprise are evident from this particular case. First, intentions are difficult to measure and are far more important in predicting and preventing surprise than the intelligence data itself. Second, satellite surveillance did not deter, predict or prevent the Iraqi dash into Kuwait.

Aviation Week and Space Technology summed up the feeling of many when they reported in September 1990, "U.S. military planners, preoccupied with the post Cold War drawdown in Europe, were caught unprepared by the Iraqi invasion of Kuwait." The same comment could have been made about the administration in general, in spite of pre-invasion diplomatic contact with the Hussein regime.

The diplomatic signals that were sent, but not received, began in February and ended just one week prior to the attack. <sup>18</sup> If these signals were obscure to the American embassy in Baghdad, the tanks massing on the northern border of Kuwait should have given pause for a more thorough investigation. Undoubtedly, the concerns that rose from satellite confirmation of this fact were put to rest by the assurances of Sadaam Hussein to Ambassador Glaspie. The mere ownership of sophisticated intelligence data didn't prevent surprise in this situation.

The second relevant case in point relates to the satellites themselves. A Kuwaiti owned, Westinghouse system known as LASS (Low Altitude Surveillance System), "gave Kuwait the <u>first</u> warning of the Iraqi attack." The warning came at 0200 on August 2nd, enough time for the royal family to flee, but not enough to prepare adequate defenses. The Kuwaiti military unable, or unprepared to face the Iraqi onslaught fled into Saudi Arabia. Once the attack occurred, the American military began to shift satellites into an orbit that could provide round the clock coverage of the area. Nevertheless, this was after the fact.

The ability to detect is one part of the equation. The ability to prevent strategic surprise is far more complex and difficult as can be seen in this case.

The mere possession of satellite intelligence isn't as significant as how the data is interpreted and briefed to political leaders. Moreover, the political interpretation of developing events is more likely to prevail than a technical evaluation of intelligence data. This proved to be the weakness in the case of Iraq and Kuwait, at least from the Kuwaiti point of view.

## THE CUBAN MISSILE CRISIS--OCTOBER 1962

Presenting a case where strategic surprise has failed is not as simple as it seems. When a nation announces they have the uncovered hostile intentions of a foreign power, the discovered nation is likely to deny the charge and call off their plans. There is certainly some evidence that this happened in the case of Egypt and Israel 6 months prior to their war in 1973. Nevertheless, the Cuban missile crisis presents an adequate case to support current doctrine of why strategic surprise is difficult to achieve, due to satellite surveillance. This case is also appropriate because it had the potential to alter the, then, balance of power in a strategic way.

After the Bay of Pigs fiasco, which is widely accepted as an intelligence disaster, and numerous overt and covert U.S. actions to weaken the Castro regime, Russia determined to shore up its socialist partner. Believing that Russian missiles in Cuba would be analogous to the U.S. missiles in Turkey, Krushchev decided in April 1962 to make preparations to place medium range missiles in Cuba.<sup>21</sup>

Believing this would be viewed as legitimate, especially if the operation was finished and presented as a *fait accompli* to the U.S., he used means that undermined this legitimacy. The means he used were covert and, ultimately, Soviet weapons were not viewed as analogous to the U.S. missiles in Turkey. U.S. missiles had been placed there in a conspicuously overt manner. Secrecy undermined the legitimacy Kruschev sought to gain through his actions.

How these missiles were discovered, however, is the aspect of this case most pertinent to this paper.

Early in September 1962, reports began to filter in from Cuba that Soviet ballistic missiles were being placed there. (These missiles are not the ones President Kennedy spoke about in his September 4 speech. In this speech he decried the Soviet military advisor buildup and introduction of anti-aircraft missiles in Cuba). At this time, the reports of ballistic missiles were originating strictly from hundreds of Cuban refugees who were streaming into the country through Florida. These reports were what initiated further official U.S. actions. At the same time, Senator Keating began to state he had proof of Soviet offensive weapons in Cuba. On October 9, he rose to announce he had evidence of Soviet offensive missiles in Cuba. (Senator Keating never disclosed his source for these statements). 23

These events led the the administration to test the veracity of these unconfirmed reports on Cuban missiles by reinvigorating intelligence gathering there. (Intelligence collection had, apparently, fallen precipitously following the Bay of Pigs invasion and subsequent public opinion furor). This diminished intelligence capability produced the statement before Congress on October 3, by Under Secretary of State George Ball, that "our intelligence is very good that military equipment supplied to Cuba does not offer any offensive capabilities." At the time of Keating's speech, American intelligence had not yet uncovered the missiles. "[On Oct 13] CIA director John McCone ordered U-2 niights over western Cuba." On October 15, the sights were determined to be launching beds for Soviet medium range hallistic missiles. The end of the matter resulted in the removal of Soviet missiles from Cuba with a corresponding promise from America not to invade there.

At first blush, this would seem to be a case for the efficacy of intelligence and photography to prevent strategic surprise. This idea cannot be negated in its entirety. Yet, a closer look at the facts in this case is warranted. What intelligence believed and what the facts were indicates a shortfall in what imagery and intelligence can provide.

One consequence of the American failure to recognize the buildup of a Soviet military contingent was as serious underestimation of the number of Soviet military personnel in Cuba. In September and early October the number was estimated at 4,000 to 4,500. By October 22, after identifying the missile bases (through U-2 imagery) the total was revised at 8,000 to 10,000. Later, the estimates were revised again to 12,000 to 16,000 troops. Retroactive estimates in early 1963 raised the total to 22,000 and were never later revised. 26

How accurate were any of these figures? In 1979, Castro claimed there had been 40,000 Soviet troops in Cuba, though few believed these figures. However, "several Soviet sources have now confirmed that in fact, 42,000 Soviet military personnel were in Cuba at the time of the crisis. (Obviously, due to the quarantine, these arrived before the crisis, otherwise even more would have arrived)."27

As to the photographic intelligence, serious efforts to determine what in fact was going on in Cuba began *after* revelations from other sources. Once information came to light that the area in question was on the western side of Cuba, CIA director John McCone re-directed U-2 flights there. Even then, weather overcast delayed useful imagery for a day and a half. Weather is still an issue, some 30 years later, when gathering intelligence using satellites.

In summary, a case can be made that intelligence averted strategic surprise in Cuba in 1962. Yet, the facts of the case lend one to believe that the results are less than conclusive. Further, open sources drove the discoveries long before intelligence networks alerted the National Command Authorities. To depend on such fortuitous circumstances in the future is rather like tempting fate. Clearly, preparations must be more than adequate for whatever contingencies the future has to offer.

#### **CHAPTER IV**

#### CONCLUSIONS AND RECOMMENDATIONS

Napoleon once said, "...Uncertainty is the essence of war, surprise its rule." 
Doctrine that supposes otherwise should be eyed cautiously. In spite of quantum advances in technological intelligence gathering, there has been no similar developments in identifying means to avert strategic surprise.

If so, this raises some discomforting issues for military leaders as well as nations at risk. Indeed, no nation can be confidently immune from being strategic surprise.

Nevertheless, "history provides us with the consoling observation that there is no direct correlation between achieving the highest degree of surprise at the outbreak of a war and ultimately emerging victorious." The cases of surprise during WW II certainly bear this out.

If surprise is inevitable, as this paper and the weight of history seem to indicate, then some changes need to be made in the way we view strategic surprise. First, a restatement of surprise, as written in FM 100-5 and ARM 1-1 needs to be made. Rather than "strategic surprise is difficult to achieve" (in light of technological advances in strategic surveillance), a more accurate view would be, "strategic surprise is difficult to prevent, in spite of technological advances in strategic surveillance." Consequently, the military officer must be prepared to fight initial engagements at a disadvantage, in the midst of great confusion, loss of equipment and personnel and a certain amount of disorder.

Specifically, certain changes are prudent in preparing for the aftermath of surprise. Dr. Michael Handel, Professor of Strategy and Policy at the Naval War College, suggests consideration be given to the following areas.

- a. Upgrade military plans and preparations for operations in event of surprise attack. This must include detailed contingency plans, staff exercises, and military field exercises.
- b. Special emphasis must be placed on the preparations and protection of headquarters, communications centers, military airfields, mobilization centers,

weapons, ammunition, and fuel depots, major bridges, tunnels, and other "choke points." All primary bases and communications centers must be able to withstand a conventional first strike in order to provide a conventional second strike capability.

- c. Special plans must be drawn up to carry out effectively and even accelerate mobilization procedures under attack conditions. Furthermore, they should be maintained and checked by exercises and updating at regular intervals.
- d. A variety of defensive counter-surprises, both technical and operational, should be prepared.
- 1. On the technological side, the defender can ready more effective anti-aircraft and/or anti-tank missiles to be operated in layered concentrations. New technologies can include dynamic mining, or the preparations of minefields that will channel the attacker into specific killing zones. . .
- 2. The initiation of counter-operations, and if possible interceptor attacks, against the attacker. A select number of units should always be available for counter-operations against enemy rear echelons, air fields, and communications and supply lines, to name a few.<sup>2</sup>

The idea of emphasizing second strike capability with diminished forces, is not a condition normally exercised by military commanders. In light of the nature of strategic surprise, it should comprise an important part of determining unit readiness and capability. Specifically, training should be conducted, within the constraints of peacetime safety, with some of the following features:

- 1) Begin the exercise without notice and on a holiday. Announce the exercise through local radio, rather than phone lines. (Coordination would be essential here with local community leaders, yet phone lines would likely be out after a strategic surprise). Teams could be sent to notify service members of the exercise.
- 2) Begin the exercise by having an impartial observer select, from a list of participants, 25% as K.I.A by the first strike. These may or may not be the ones who could not be located for the exercise. (The list of names should be without rank or job title--war is fairly arbitrary when it comes to these considerations).
- 3) Communications throughout the affair should begin by being completely out.

  Restoration could be phased in, with maybe one in four messages getting through by the end of the exercise.

- 4) The exercise command center should be located in a place not ordinarily used for such purposes.
- 5) The exercise should be evaluated as any normal readiness exercise is evaluated. Obviously, perfectly simulating war time conditions following a surprise attack isn't possible in peacetime. Each service would have to design the parameters of their own strategic surprise readiness evaluation. Even so, perhaps some of the above sounds far fetched and unworkable. Yet, the examples of Pearl Harbor and Operation Barbarossa are not so remote as to be unthinkable. In a world that is becoming more, rather than less, fractured and unstable, readiness is more important than ever.

In addition to these recommendations, a further examination of doctrine needs to be undertaken. An evaluation of the curriculum of mid-level and senior professional military education should be made. It seems intuitively obvious that teaching at these institutions form the basis for service doctrine. The minds of military leaders have been sharpened in the halls of the war colleges. If these institutions, however benignly, serve to dismiss the potential for strategic surprise, then alternate viewpoints must be incorporated into meaningful curriculum. History is replete with examples of men and nations doing exactly what was thought could not be done.

As has been shown, the nature of surprise has little to do with presence or absence of intelligence. Rather it is conceived in the heart of man and sown by exploiting the nature of enemy leaders and nations as well as the bureacracies that serve them. Further, intelligence networks, as one of those bureacracies, fail at inopportune times for a variety of reasons. It is not necessarily a failing of these networks but the nature of all bureaucracies to proceed cautiously, withhold sensitive or potentially embarrassing information and promote their own self-interests.

Unless the nature of man changes, the principle of strategic surprise will remain, even in the midst of surveillance technology and accurate intelligence. Francis Bacon said it best,

when he commented on the condition of man and his view of truth, "In the end, no matter the facts, man will believe the truth that most pleases him." It is both a statement and warning that should not be lightly dismissed.

#### NOTES

# Chapter I

- 1. Websters New Collegiate Dictionary, 7th Edition (Springfield MA: G & C Merriam Company, 1969).
- 2. Department of the United States Air Force, <u>AFM 1-1, Vol II</u> (Washington: Dept. of the Air Force, 1992), p. 13.
- 3. Joint Chiefs of Staff, <u>Joint Warfare of the Armed Forces</u> (Washington: National Defense University Press, 1991), p. 21.

# Chapter II

- 1. Sir Michael Howard & Peter Paret, ed. and trans., On War (Princeton NJ: Princeton University Press, 1991), pp. 198-199.
- 2. Capt G.H. Mendell and Lt W.P. Craghall, <u>The Art of War</u> (Westport CT: Greenwood Press, 1977), p. 209.
- 3. Barton Whaley, <u>Stratagem: Deception and Surprise in War!</u> (Cambridge MA: MIT Center for International Studies, 1969), pp. 122-126.
- 4. Samuel B. Griffen, trans., <u>Sun Tzu: The Art of War</u> (London: Oxford University Press, 1971), pp. 97, 98, 133.
- 5. Michael Handel, <u>Masters of War: Sun Tzu, Clausewitz & Jomini</u> (London: Frank Cass & Co Ltd, 1992), p. 109.
- 6. Michael Handel, "Intelligence and the Problem of Strategic Surprise," <u>The Journal of Strategic Studies</u> (Washington), September 1984, p. 229.
  - 7. Handel, "Intelligence," p. 229.
  - 8. Handel, "Intelligence," p. 230.
- 9. Ewen Montague, <u>The Man Who Never Was</u> (New York: J.B. Lippincot Co, 1953), p. 143.
- 10. Matthew Cooper, <u>The German Army 1933-1945</u> (Chelsea MI: Scarborough House Publishers, 1978), p. 502.

- 11. Cooper, p. 504.
- 12. Roberta Wohlsetter, <u>Pearl Harbor: Warning and Decision</u> (Stanford CA: Stanford University Press, 1962), p. 400.

## Chapter III

- 1. Wohlsetter, p. 382.
- 2. Wohlsetter, p. 382.
- 3. Wohlsetter, p. 382.
- 4. Wohlsetter, p. 385.
- 5. Wohlsetter, p. 386.
- 6. Wohlsetter, p. 393.
- 7. Wohlsetter, p. 395.
- 8. Wohlsetter, p. 396.
- 9. Wohlsetter, p. 397.
- 10. John Keegan, <u>The Second World War</u> (Middlesex England: Penguin Books, 1989), p. 177.
  - 11. Keegan, p. 180.
- 12. Montgomery Hyde, <u>Stalin: The History of a Dictator</u> (New York: Farrar, Straus, and Giroux, 1972), p. 428.
  - 13. Hyde, p. 428.
- 14. Ronald Hingley, <u>Joseph Stalin: Man and Legend</u> (New York: McGraw Hill Book Co, 1974), p. 309.
  - 15. Hingley, p. 309.
  - 16. Keegan, p. 180.
- 17. David Fulghum, "U.S. Mounts Swift Response," <u>Aviation Week & Space Technology</u>, Aug 13, 1990, p. 18.

- 18. \_\_\_\_\_, "Kuwait: How the West Blundered," <u>Economist</u>, September 29, 1990, p. 19.
- 19. Bruce Nordwall, "Tethered Aerostat Alerted Kuwait to Iraqis Across Border," Aviation Week and Space Technology, September 24, 1990, p. 21.
  - 20. Fulghum, p. 20.
- 21. Raymond L. Garthoff, <u>Reflections on the Cuban Missile Crisis</u> (Washington D.C.: The Brookings Institution, 1989), p.12.
  - 22. Garthoff, p. 28.
- 23. Robert A. Divine, <u>Cuban Missile Crisis</u> (New York: Markus Wiener Publishing. 1988), pp. 16-17.
  - 24. Garthoff, p. 34.
  - 25. Divine, p. 18.
  - 26. Garthoff, p. 35.
  - 27. Garthoff, p. 35.

# Chapter IV

- 1. Handel, "Intelligence and the Problem of Strategic Surprise," p. 270.
- 2. Handel, "Intelligence and the Problem of Strategic Surprise," p. 271.

#### **BIBLIOGRAPHY**

- Cooper, Matthew. <u>The German Army 1933-1945</u>. Chelsea MI: Scarborough House Publishers, 1978.
- Department of the Air Force. <u>AFM 1-1, Vol II</u>. Washington: Department of the Air Force, 1992.
- Divine, Robert A. ed. <u>Cuban Missile Crisis</u>. New York: Markus Wiener Publishing, 1988.
- Fulghum, David. "U.S. Mounts Swift Response." <u>Aviation Week and Space Technology</u>, August 13, 1990, pp. 18-22.
- Garthoff, Raymond L. <u>Reflections on the Cuban Missile Crisis</u>. Washington D.C.: The Brookings Institution, 1989.
- Griffen, Samuel B., trans. Sun Tzu: The Art of War. London: Oxford University Press, 1971.
- Handel, Michael. "Intelligence and the Problem of Strategic Surprise." <u>The Journal of Strategic Studies</u>, September 1984, pp. 229-281.
- Handel, Michael. Masters of War: Sun Tzu, Clausewitz & Jomini. London: Frank Cass & Co, Ltd, 1992.
- Hingley, Ronald. <u>Joseph Stalin: Man and Legend</u>. New York: McGraw Hill Book Co., 1974.
- Howard, Sir M. and Paret, P. ed. and trans. On War. Princeton NJ: Princeton University Press, 1991.
- Joint Chiefs of Staff. <u>Joint Warfare of the Armed Forces</u>. Washington: National Defense University Press, 1991.
- Keegan, John. The Second World War. Middlesex England: Penguin Books, 1989.
- Larson, David L. ed. The Cuban Crisis of 1962. Boston: Houghton Mifflin Co, 1963.
- Mendell, Capt G.H. and Craghall, Lt W.P. <u>The Art of War</u>. Westport CT: Greenwood Press, 1977.
- Montague, Ewen. The Man Who Never Was. New York: J.B. Lippincot Co., 1953.

- Montogomery, Hyde. <u>The History of a Dictator</u>. New York: Farrar, Straus, and Giroux, 1972.
- Nordwall, Bruce. "Tethered Aerostat Alerted Kuwait to Iraqis Across Border." <u>Aviation Week and Space Technology</u>, September 24, 1990, pp. 21-22.
- Whaley, Barton. <u>Stratagem: Deception and Surprise in War!</u> Cambridge MA: MIT Center for International Studies, 1969.
- Wohlsetter, Roberta. <u>Pearl Harbor: Warning and Decision</u>. Stanford CA: Stanford University Press, 1962.
- pp. 19-22. "Kuwait: How the West Blundered." <u>Economist</u>, September 29, 1990,
- . Webster's New Collegiate Dictionary, 7th Edition. Springfield MA: G & C Merriam Co., 1969.